

Fig. 1
Schematic view of a preferred apparatus used in producing nonwoven spacer fabric according to present invention

Fabric Cross Sections with and without filling materials

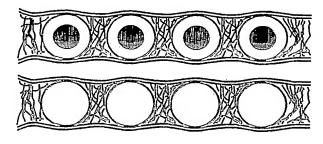
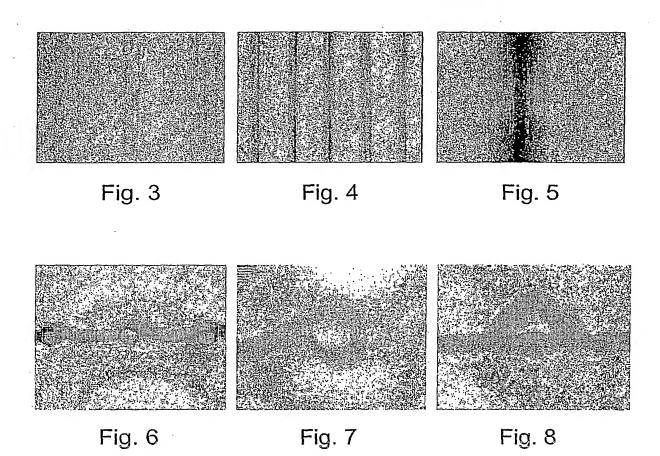


Fig. 2
Schematic cross-section of a typical spacer fabric produced according to claim 1



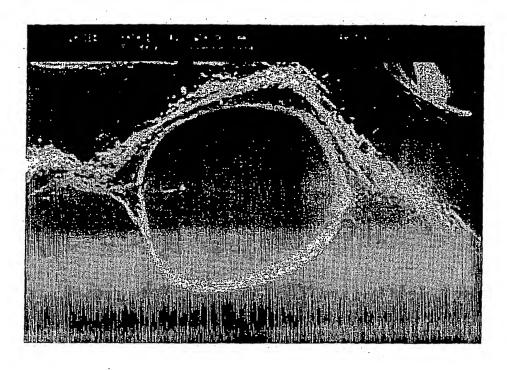


Fig. 9

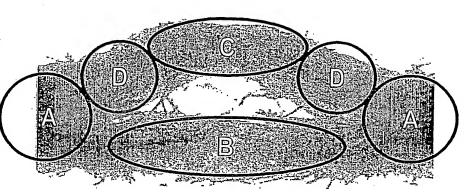
Heterogeneous: orientation, porosity and permeability vary in the fabric

A = Inter-cavity area

B = Base layer (in contact with the forming belt)

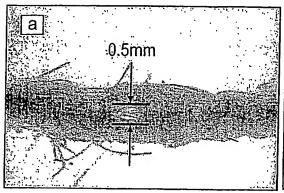
C = Upper cover area

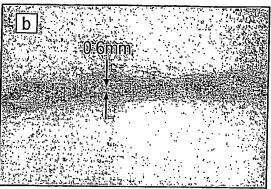
D = Corner area



When jet impact is from one side:-Permeability in area: D > C > B > A

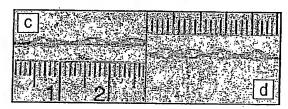
Fig. 10





t1 = cavity diameter t2 = base fabric thickness

 $t1/t2 = 0.5:1 \longrightarrow 8:1$ Flat \longrightarrow Contour



Symmetry of the voids can be varied and c. and d. above is influenced by the direction of the water jets: c = jets impinge from above only d = jets impinge from above and below

Fig. 11